

Work Order ID 143469

Tuesday, March 15, 2016 12:42:03 PM

143469

Page 1

Item ID: D5039-3 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Master Link
 Start Date: 3/18/2016 Start Qty: 16.00 ***16*** Cust Item ID:
 Required Date: 3/31/2016 Req'd Qty: 16.00 ***16*** Customer:
 Reference:

Approvals: Process Plan: MLJ Date: MAR 15 2016 Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D5039	B								

100 0.00 ***100*** 16 MAR 16 2016 **DAS 13 9-59**

Purchasing
 Purchasing
 Memo
 Issue P/O: 31723
 Description: Master Link
 Supplier: Acklands Grainger or CTG
 Supplier P/N: 6L094
 Material release note is required.

110 0.00 ***110***
 Packaging
 Packaging
 Memo
 0.01

16x 8p 16 03 21

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					

Root Cause			FAULT CATEGORY							
Environment ☐	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong
Design ☐	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions
Doc/Data ☐	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance
Equip/Tooling ☐	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect
Handling/Pre ☐	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing
Material ☐	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved
Internal Transport ☐	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing
Tribal Knowledge ☐	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish
LOA ☐	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread
Substation ☐	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence
Past Expiry Date ☐	☐	Manufacturing Process	OTHER : _____							
Misidentified ☐	☐	Past Due								

Work Order ID 143469***143469***

Page 2

Tuesday, March 15, 2016 12:42:03 PM

Item ID: D5039-3

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Master Link

Start Date: 3/18/2016 Start Qty: 16.00

16

Cust Item ID:

Required Date: 3/31/2016 Req'd Qty: 16.00

16

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

NR1

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC6- Inspect dimensions to drawing	0.00							DAS 38 3-29
120									
QC	Memo	0.00							
Quality Control									MAR 22 2016
130	Identify as per dwg & Stock Location: <u>ST143</u>	0.00							
130									
Packaging	Memo	0.00							
Packaging									MAR 22 2016
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.03							
Quality Control									MAR 22 2016

MCS MAR 22 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	☐ No Re-verification	☐ Pressure/Forced	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong				
Design ☐	☐ Operator	☐ Bending	☐ Set-up	☐ Folio/Program	☐ Outside Dimensions				
Doc/Data ☐	☐ Offset/Setup	☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance				
Equip/Tooling ☐	☐ Supplier	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect				
Handling/Pre ☐	☐ Training	☐ Crimp/Kink/Ripple/Wave	☐ Inspection Incomplete/Unqualified	☐ Wrong Stock Pulled	☐ Part Lost/Missing				
Material ☐	☐ Use for Testing	☐ Cuffs	☐ Contamination	☐ Out of Sequence	☐ Part Moved				
Internal Transport ☐	☐ Poor Information	☐ Crushing	☐ Countersink	☐ Off-set	☐ Drawing				
Tribal Knowledge ☐	☐ Rushing	☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled	☐ Finish				
LOA ☐	☐ Product Improvement	☐ Wave/Twist in Tube	☐ Instructions Incomplete/Unclear	☐ Fit/Function	☐ Misread				
Substation ☐	☐ Process Improvement	☐ Marks/Chatter	☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence				
Past Expiry Date ☐	☐ Manufacturing Process	OTHER : _____							
Misidentified ☐	☐ Past Due								

Picklist Print

Tuesday, March 15, 2016 12:42:03 PM

Page 1

Work Order ID: 143469

143469

Parent Item: D5039-3

D5039-3

Parent Item Name: Master Link

Start Date: 3/18/2016

Required Date: 3/31/2016

Start Qty: 16.00

Required Qty: 16.00

Comments: IPP REV:A 14.05.26 NEW ISSUE/ ECN14-567 DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

6L094

Purchased

No

Each

0.0000

6L094

Master Link

16
16 x sp 16-03-21

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

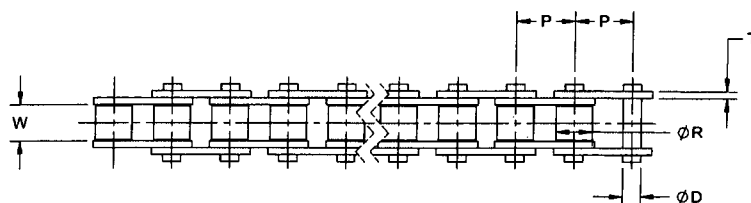
QA Closed: _____ Date: _____

Work Order update only ☐

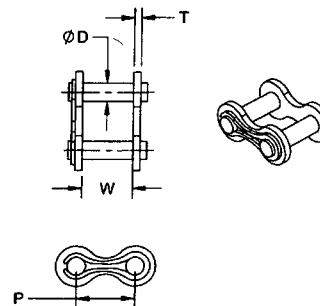
Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					

Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐			FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐					
			OTHER : ☐					

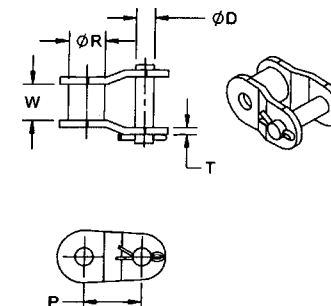
SPECIFICATION CONTROL DRAWING



D5039-1 CHAIN



D5039-3 MASTER LINK



D5039-5 HALF LINK

DART P/N	DESCRIPTION	MATERIAL	WEIGHT (LB/FT)	MANUFACTURER	MANUFACTURER P/N	VENDOR	VENDOR P/N	ALTERNATE VENDOR	ALTERNATE VENDOR P/N	P	W	T	D	R
D5039-1	CHAIN	304 SS	0.43	TSUBAKI	A140004	ACKLANDS GRAINGER	6L076	MCMaster CARR	6264K85	0.50	0.31	0.06	0.16	0.31
D5039-3	MASTER LINK	304 SS	0.43	TSUBAKI	RS40-SS-1	ACKLANDS GRAINGER	6L094	MCMaster CARR	6264K52	0.50	0.43	0.06	0.16	N/A
D5039-5	HALF LINK	304 SS	0.43	-	-	-	-	MCMaster CARR	6264K72	0.50	0.31	0.06	0.16	0.31

D5039-X CHAIN

NOTES:

- 1) MATERIAL: SEE TABLE
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.7
- 7) WEIGHT: SEE TABLE

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. 143469 MLJ
16-03-15

B	ADD ALTERNATE VENDOR; ZN B3-1, ADD -5; ZNB8-1, C2-1	VS	15.03.04
A	NEW ISSUE	AK	14.01.15
REV.	DESCRIPTION	BY	DATE
DESIGN	AK	DART AEROSPACE USA, INC.	
DRAWN	VS	KENT, WA	
CHECKED	AK	DRAWING NO.	REV. B
MFG. APPR.	JLM	D5039	SHEET 1 OF 1
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	CHAIN	NTS
DATE	15.03.04	COPYRIGHT © 2014 BY DART AEROSPACE USA, INC.	
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RELEASED
2015-09-21
EEN 15-556



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO31723**

Purchase Order Date 3/16/2016

PO Print Date 3/18/2016

Page Number 1 of 3

Order From :

VU-MCM001

Ship To : DART AEROSPACE LTD

MCMASTER-CARR SUPPLY CO,
P.O. BOX 7690
CHICAGO, IL 60680-7690
US

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

REVISED

Contact Name

Vendor Phone

330 995 5500

Ship To Contact

Ship To Phone

Ship Via:

Purolator ground ppd

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Terms

Net 10

Currency

USD

FOB

FCA - (Free Carrier)

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	6264K52 AS PER DWG D5039 REV. B B143469	MASTER LINK	3/18/2016 Yes 3/18/2016		16.00 Each	\$3.46	\$55.36
						Line Total:	\$55.36
2	71500-30	91732A212 HELICOIL	3/18/2016 Yes 3/18/2016		2.00 Each	\$4.70	\$9.40
						Line Total:	\$9.40
Deliver To: CNC							
3	71500-30	91732A524 HELICOIL	3/18/2016 Yes 3/18/2016		2.00 Each	\$6.44	\$12.88

Note:

3/18/2016



200 Aurora Industrial Pkwy
Aurora OH 44202-8087
330-995-5500
cle.sales@mcmaster.com

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury ON K6A 1K7
Canada
Attention: Chantal

Purchase Order
PO31723
Order Placed By
Chantal Lavoie
McMaster-Carr Number
8527173-01

Page 1 of 1

03/16/2016

Line	Product	Ordered	Shipped
1	6264K52 ANSI No. 40-Stainless Steel Connecting Link for 304 Stainless Steel, Highly Corrosion-Resistant Roller Chain	16 Each	16
2	91732A212 18-8 Stainless Steel Standard Helical Insert, 1/4"-20 Internal Thread, .375" Length, MS122121, Packs of 10	2 Packs	2
3	91732A524 18-8 Stainless Steel Standard Helical Insert, 3/8"-24 Internal Thread, .375" Length, MS124658, Packs of 10	2 Packs	2
4	9688K122 Rigid Plastic Snap-in Plug, Fits 1/4" ID, 7/16" Head Diameter, Black, Packs of 100	4 Packs	4
5	2047A66 Brown & Sharpe Bestest Dial Indicator, 0-0.030", 0.0005" Graduations, 1" Dial Diameter, Black Face	2 Each	2
6	6641A41 Loctite Gasket Maker, #598, 2.36 oz Tube	16 Each	16
7	6830A13 Quick-Read Tape Measure, 25 ft. LG. Lacquer-Coated Steel Blade	10 Each	10

Sp/6-03-21